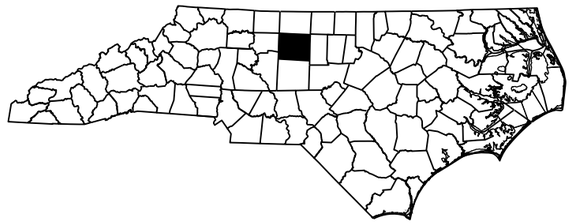
PROJECT: I-5734A

CONTRACT NO: DG00344

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5734A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
52010.1.2	NHPIM-0040(7)208	PE
52010.3.2	NHPIM-0040(7)208	CONST

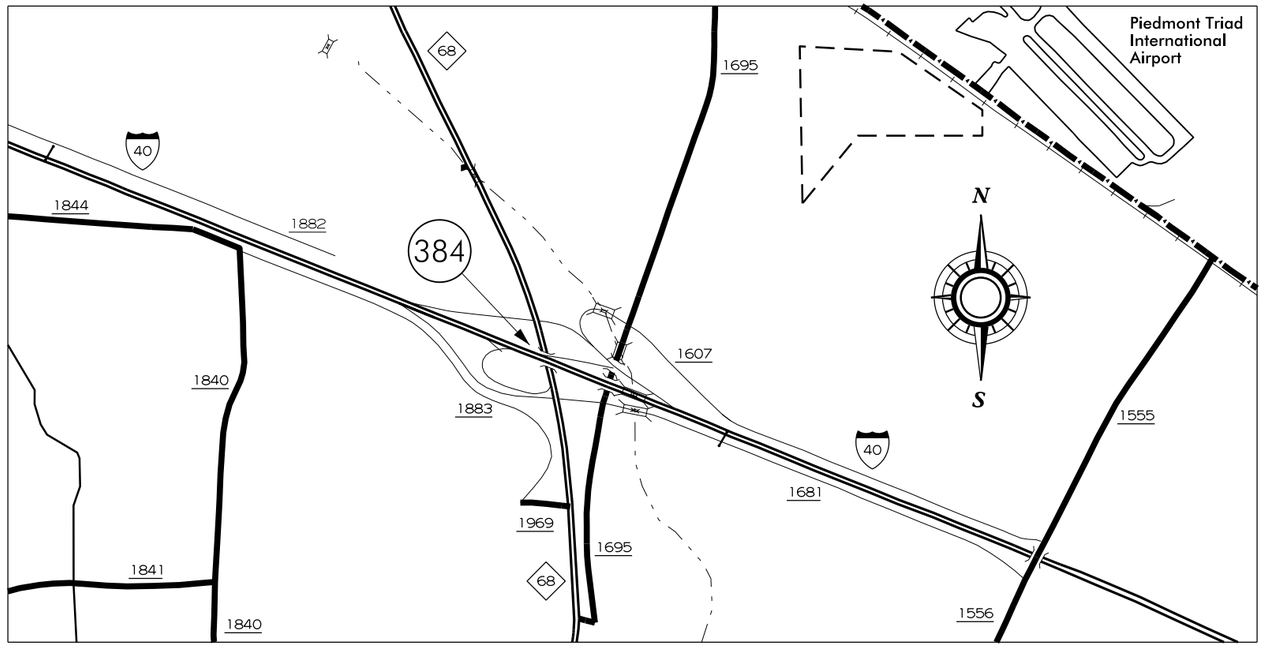


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

LOCATION: BRIDGE #384 ON I-40 OVER NC 68

TYPE OF WORK: BRIDGE PRESERVATION – SCARIFICATION, HYDRO-DEMOLITION, DECK REPAIR, LATEX MODIFIED CONCRETE OVERLAY-VERY EARLY STRENGTH, JOINT DEMOLITION, PAINTING EXISTING STRUCTURE AND SUBSTRUCTURE REPAIR.



DESIGN DATA

BRIDGE #384 ADT 2013 = 109,000

PROJECT LENGTH

BRIDGE #384 = 0.05 MILE

Prepared in the Office of:
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

RICK NELSON, P.E.
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

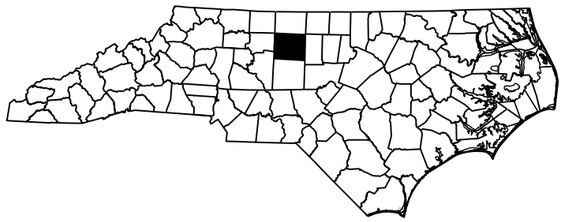
LETTING DATE:

DocuSigned by:
AD30B1D977394CC...
NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
12/8/2016

TIMOTHY M. SHERRILL, P.E.
PROJECT DESIGN ENGINEER

PROJECT: I-5734A

CONTRACT: DG00344



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5734A	1A	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
52010.1.2	NHPIM-0040(7)208	P.E.
52010.3.2	NHPIM-0040(7)208	CONST.

STATE OF NORTH CAROLINA

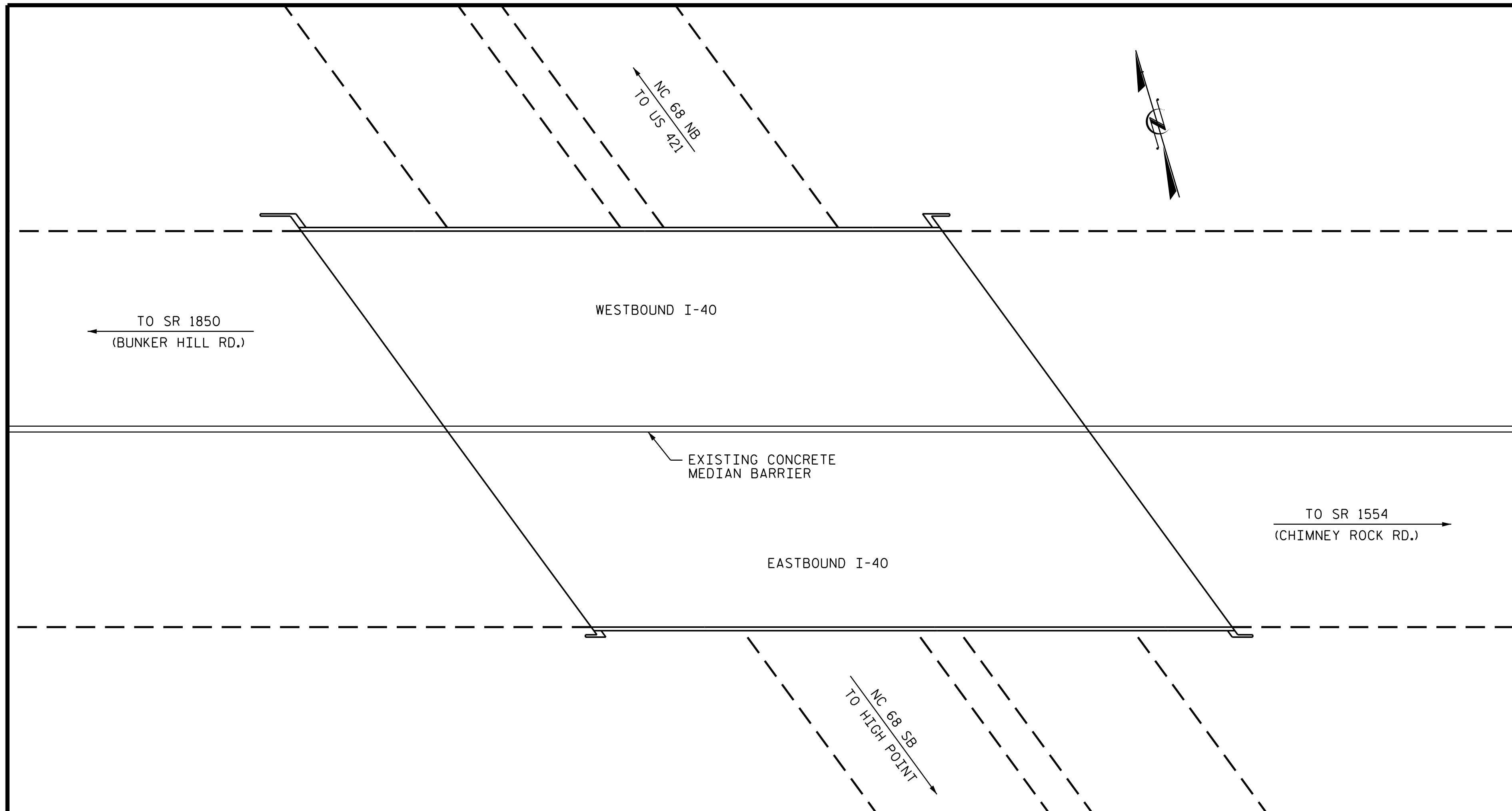
DIVISION OF HIGHWAYS

GUILFORD COUNTY

LOCATION: BRIDGE #384 ON I-40 OVER NC 68

TYPE OF WORK: BRIDGE PRESERVATION – SCARIFICATION, HYDRO-DEMOLITION, DECK REPAIR, LATEX MODIFIED CONCRETE OVERLAY-VERY EARLY STRENGTH, JOINT DEMOLITION, PAINTING EXISTING STRUCTURE AND SUBSTRUCTURE REPAIR.

INDEX OF SHEETS



LOCATION SKETCH

NOTES:

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION, ONLY. CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING THE BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE MANAGING HYDRO-DEMOLITION WATER SPECIAL PROVISION.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, CLASS II SURFACE PREPARATION, AND CLASS III SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISION.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING & DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

GROOVING BRIDGE FLOORS	POLLUTION CONTROL	* CLASS II SURFACE PREPARATION	* CLASS III SURFACE PREPARATION	** LATEX MODIFIED CONCRETE OVERLAY-VES	PLACING & FINISHING OF LATEX MODIFIED CONCRETE OVERLAY-VES	PAINTING EXISTING WEATHERING STEEL STRUCTURE FOR BRIDGE #___	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	PAINTING CONTAINMENT FOR BRIDGE #___	* VOLUMETRIC MIXER	* CONCRETE FOR DECK REPAIR	BRIDGE JOINT DEMOLITION	EPOXY COATING	SCARIFYING BRIDGE DECK	HYDRO-DEMOLITION OF BRIDGE DECK	ELASTOMERIC CONCRETE	FOAM JOINT SEALS
SQ. FT.	LUMP SUM	SQ.YDS.	SQ. YDS.	C.Y.	SQ.YDS.	LUMP SUM	CU. FT.	CU. FT.	LN. FT.	LUMP SUM	LUMP SUM	CU. FT.	SQ. FT.	SQ. FT.	SQ.YDS.	SQ.YDS.	CU. FT.	LUMP SUM
27,126	LUMP SUM	4	4	129	3083	LUMP SUM	10	94	84	LUMP SUM	LUMP SUM	1	816	2609	3083	3083	204	LUMP SUM

* CLASS II AND CLASS III SURFACE PREPARATION, VOLUMETRIC MIXER, AND CONCRETE FOR DECK REPAIR ARE NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED CLASS III SURFACE PREPARATION AREAS ARE ENCOUNTERED.

** THE QUANTITY OF LATEX MODIFIED CONCRETE OVERLAY - VES INCLUDES THE 4" OVERLAP BETWEEN OVERLAYS.

PROJECT NO. I-5734A
GUILFORD COUNTY
BRIDGE NO. 384

SHEET 1 OF 2

DocuSigned by:
NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL
AD50B1D97794CC...
12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

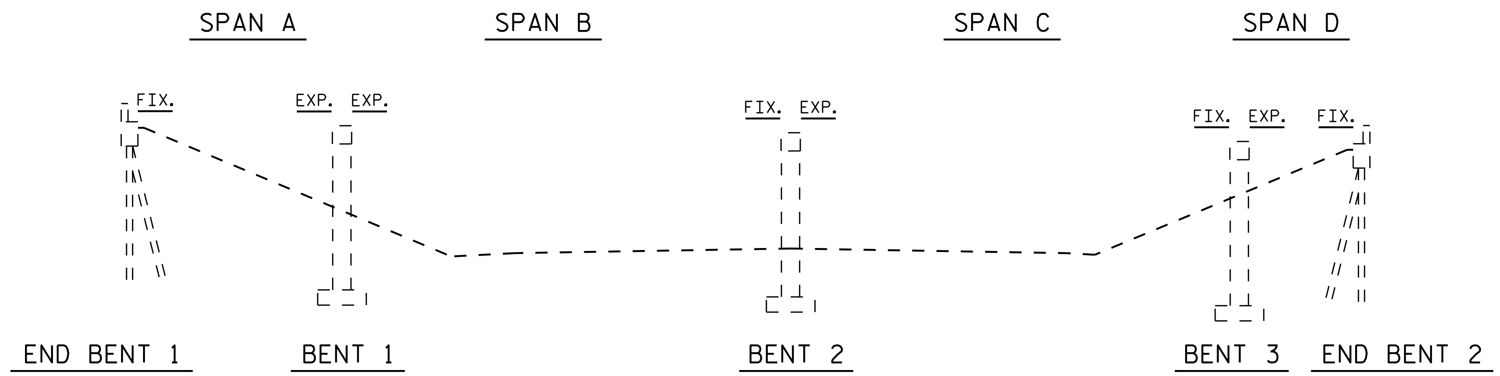
GENERAL DRAWING BRIDGE OVER NC 68 ON I-40 BETWEEN SR 1850 AND SR 1554

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

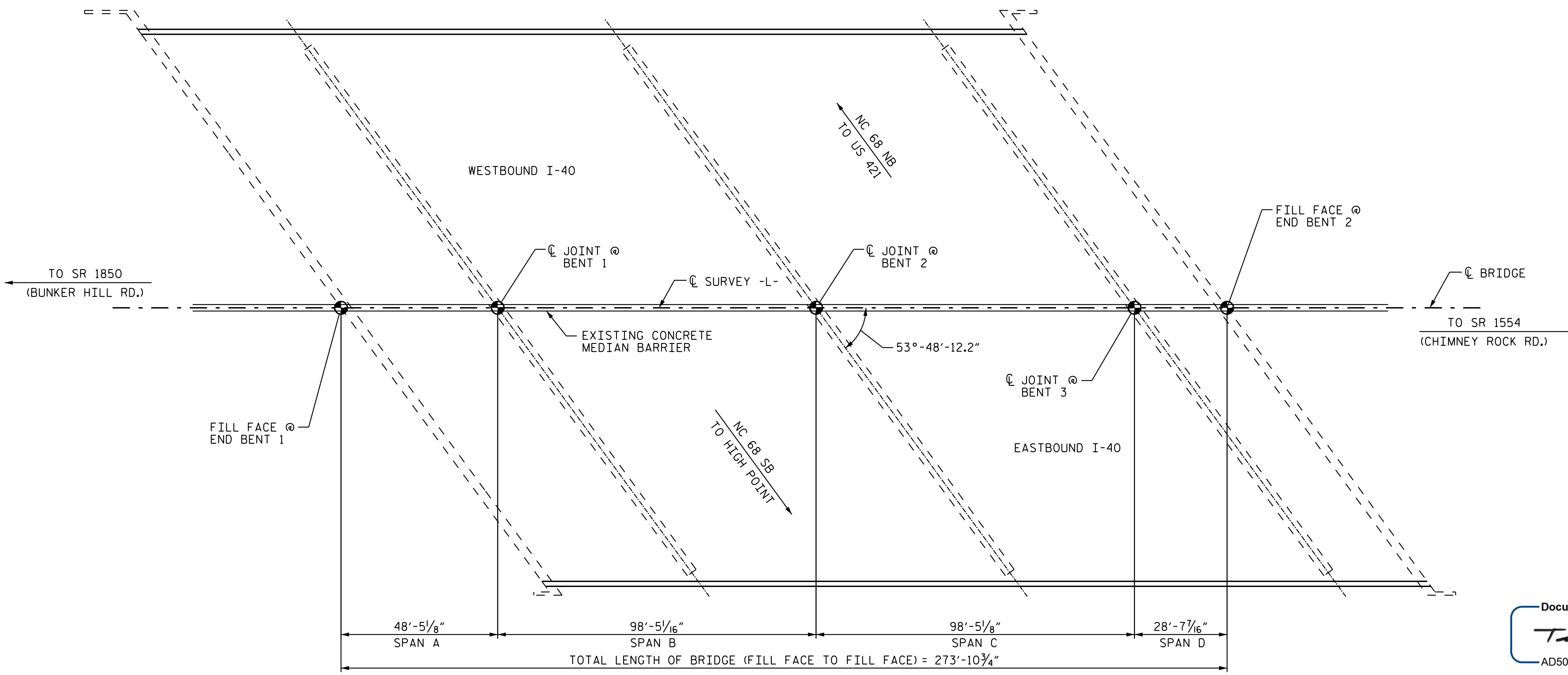
DRAWN BY : D.V. JOYNER DATE : 12/15
CHECKED BY : W. SMITH DATE : 12/15

08-DEC-2016 06:36
R:\Structures\Design\STR00-PEF\FinalPlans DGN\401_001_I5734_SMU_S1_GD.DGN
pbrewer



ELEVATION

SECTIONS AT BENTS AND END BENTS ARE AT RIGHT ANGLES



PLAN

COLUMNS AND FOOTINGS NOT SHOWN IN PLAN VIEW FOR CLARITY

I hereby cerify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer Date

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO.: 384

SHEET 2 OF 2

DocuSigned by:

AD50B1D97749466...

12/8/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING BRIDGE OVER NC 68 ON I-40 BETWEEN SR 1850 AND SR 1554

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			18

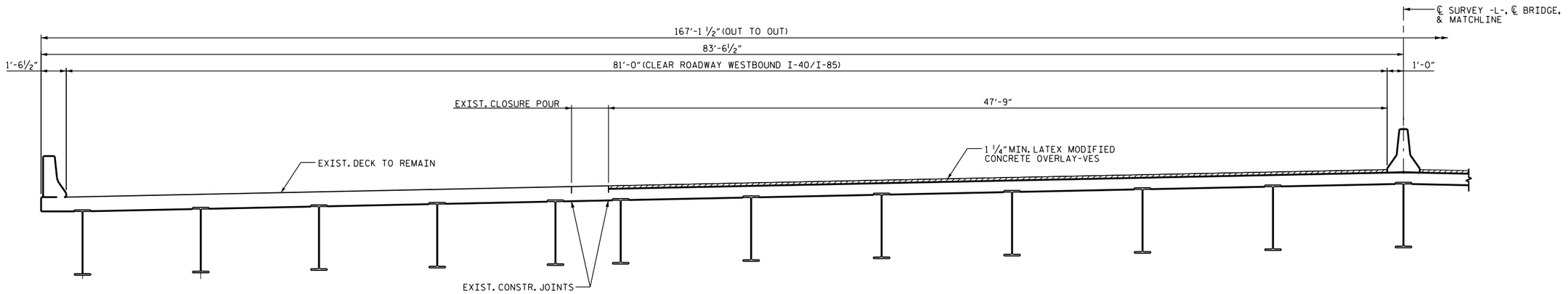
DRAWN BY : D.V. JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2015

R:\Structures\Design\STR00-PEF\FinalPlans DGN\401_003_I5734_SMU_S2_GD.DGN

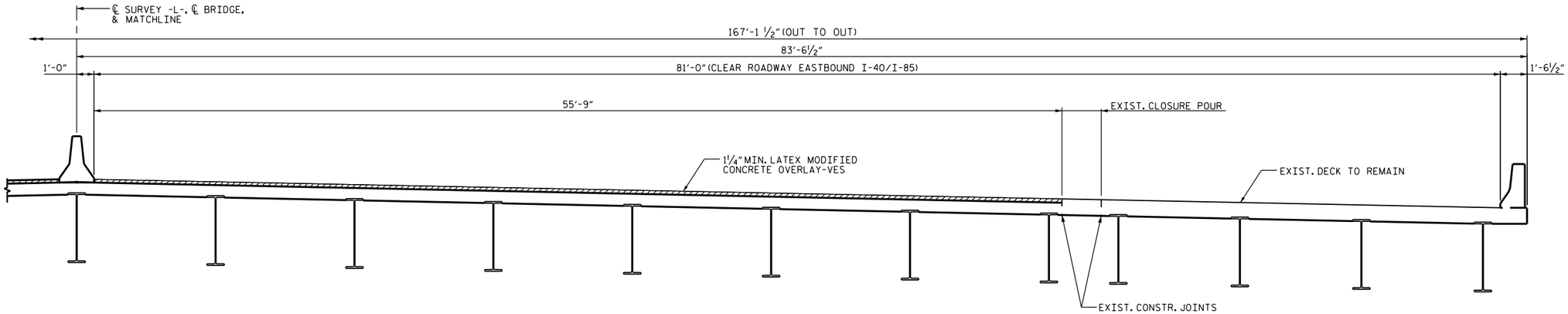
NOTE:

WHEN PREPARING THE SURFACE FOR LMC OVERLAY-VES ADJACENT TO A PREVIOUSLY PLACED LMC-VES STAGE, THE PREVIOUSLY PLACED LMC-VES SHALL BE REMOVED FOR A DISTANCE OF 4-INCHES FROM THE LMC-VES EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC-VES SHALL BE PLACE IN THE 4-INCH OVERLAP, AS PART OF NEW LMC-VES STAGE PLACEMENT.

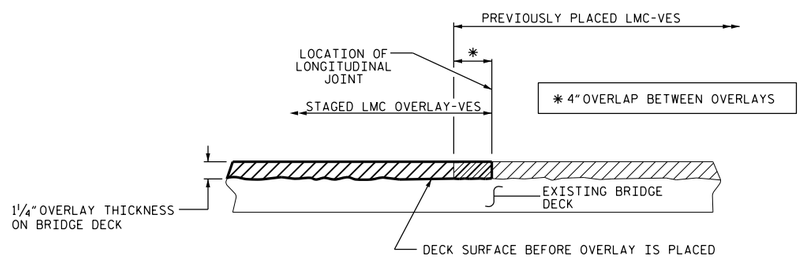
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC-VES PLACEMENT.



TYPICAL SECTION



TYPICAL SECTION



SECTION THRU DECK

STAGED LMC-VES OVERLAY JOINT

(AS NEEDED)

PROJECT NO. I-5734A

GUILFORD **COUNTY**

BRIDGE NO. 384

DocuSigned by:
AD50E1D977A9368...

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER TIMOTHY M. SHERRILL

12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

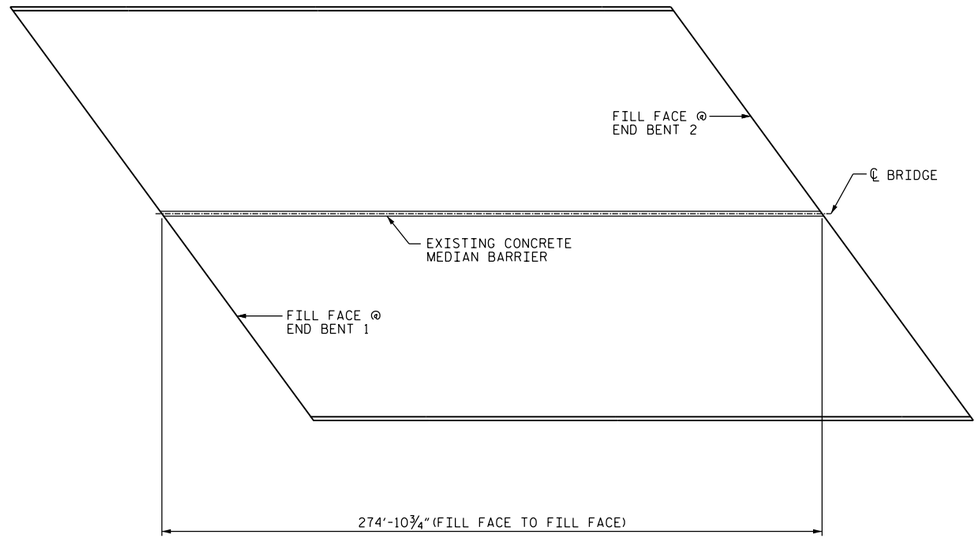
TYPICAL SECTION & LATEX MODIFIED CONCRETE-VES DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			18

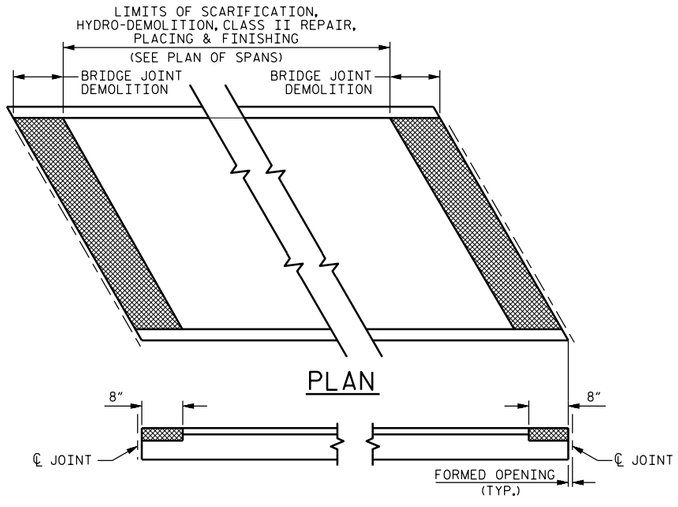
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : DOUG JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2005

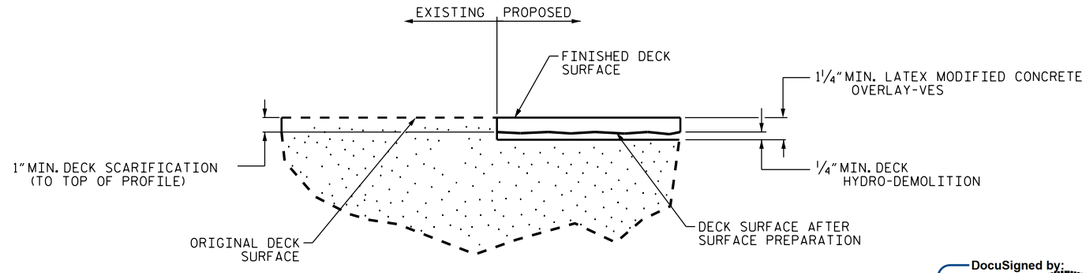
08-DEC-2016 06:37
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_005_I5734_SMU_S3_TS.DGN
pbrewer



PLAN



ELEVATION



DETAIL FOR LATEX
MODIFIED CONCRETE OVERLAY-VES

DECK SCARIFICATION, HYDRO-DEMOLITION, AND LATEX MODIFIED CONCRETE OVERLAY-VES

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

DocuSigned by:
AD50E81D877455...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

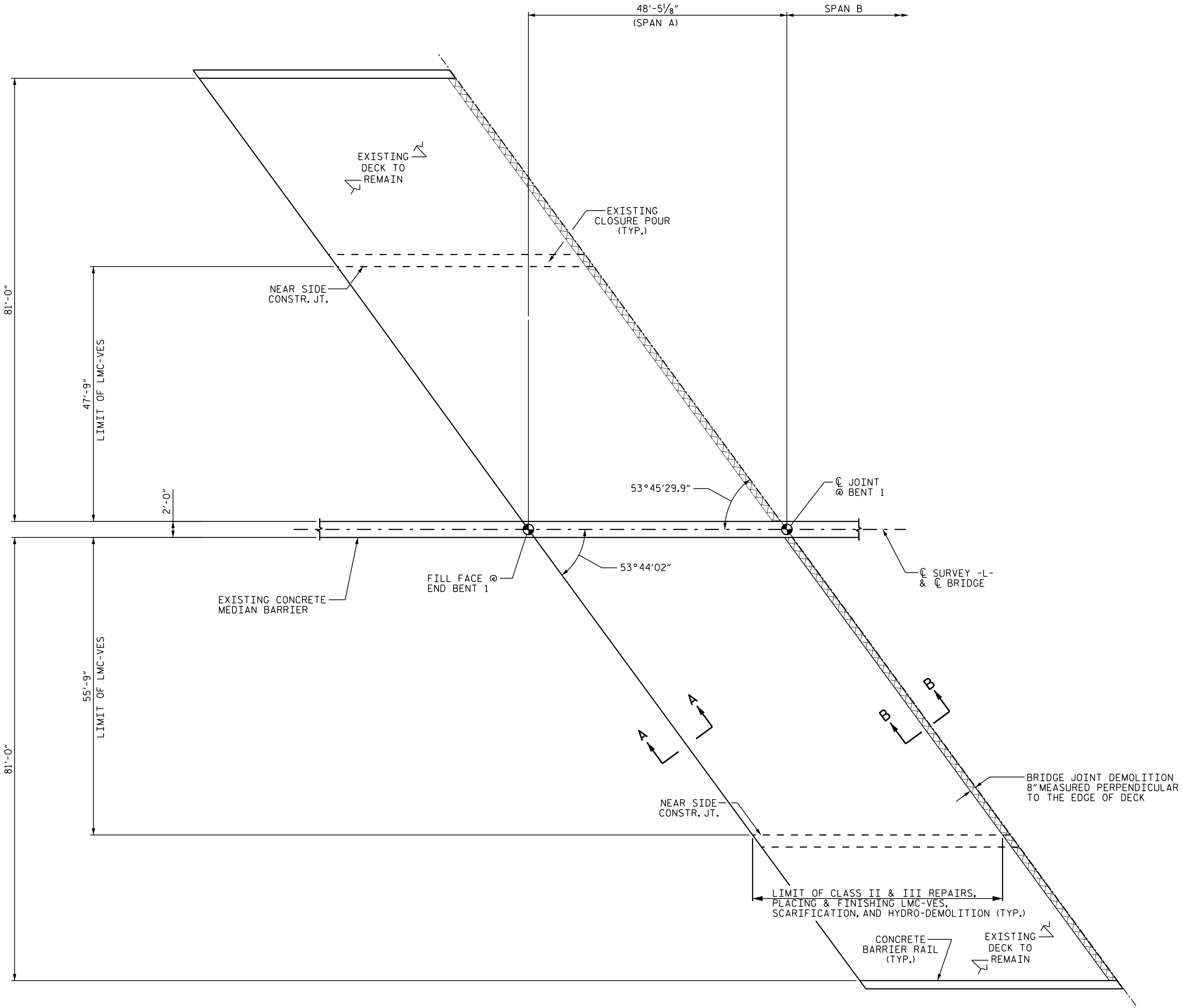
SURFACE PREPARATION

DRAWN BY : D.V. JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2015

08-DEC-2016 06:38
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_007_I5734_SMU_S4_SP.DGN
pbrewer

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			18



PLAN OF SPAN A

(FOR SECTION VIEW, SEE "JOINT DETAILS" SHEET S-9)

SPAN "A" QUANTITIES

	ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	1 SQ. YDS.	
CLASS III SURFACE PREPARATION	1 SQ. YDS.	
BRIDGE JOINT DEMOLITION	136 SQ. FT.	
SCARIFYING BRIDGE DECK	546 SQ. YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	546 SQ. YDS.	

PAYMENT FOR CLASS II & CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE SPECIAL PROVISIONS.

CLASS II SURFACE PREPARATION

BRIDGE JOINT DEMOLITION

SCARIFICATION & HYDRO-DEMOLITION

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

SHEET 1 OF 4

DocuSigned by:
AD50B1D977494CC...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION

SPAN A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

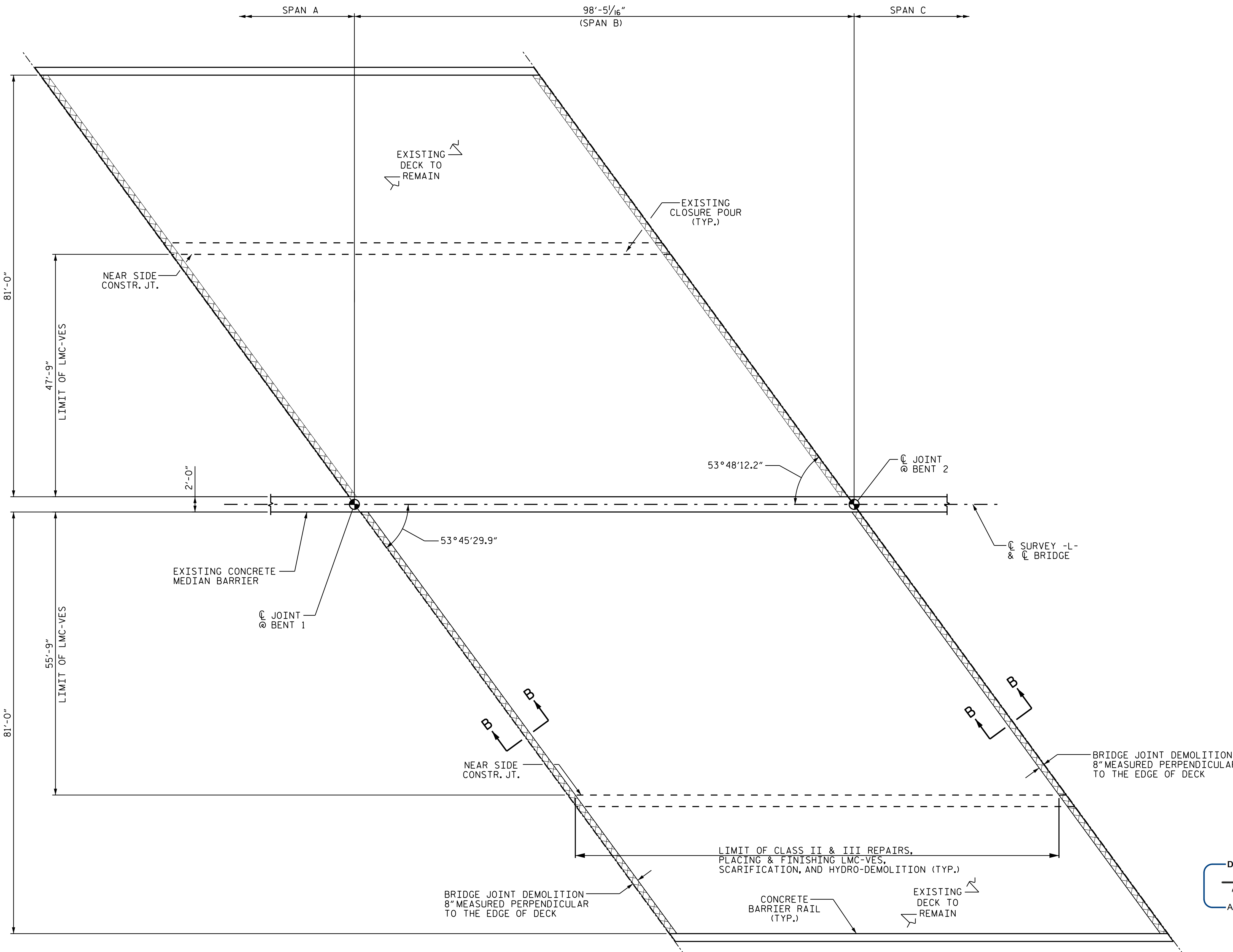
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : D.V. JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2015

08-DEC-2016 06:39
R:\Structures\Design\STR00-PEF\FinalPlans DGN\401_009_I5734_SMU_S5_SPA.DGN
pbrewer

SPAN "B" QUANTITIES		
	ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	1 SQ. YDS.	
CLASS III SURFACE PREPARATION	1 SQ. YDS.	
BRIDGE JOINT DEMOLITION	272 SQ. FT.	
SCARIFYING BRIDGE DECK	1109 SQ. YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	1109 SQ. YDS.	

PAYMENT FOR CLASS II & CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE SPECIAL PROVISIONS.



CLASS II SURFACE PREPARATION

BRIDGE JOINT DEMOLITION

SCARIFICATION & HYDRO-DEMOLITION

PLAN OF SPAN B

(FOR SECTION VIEW, SEE "JOINT DETAILS" SHEET S-9)

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

SHEET 2 OF 4

DocuSigned by:

AD50B1D977494C1...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION

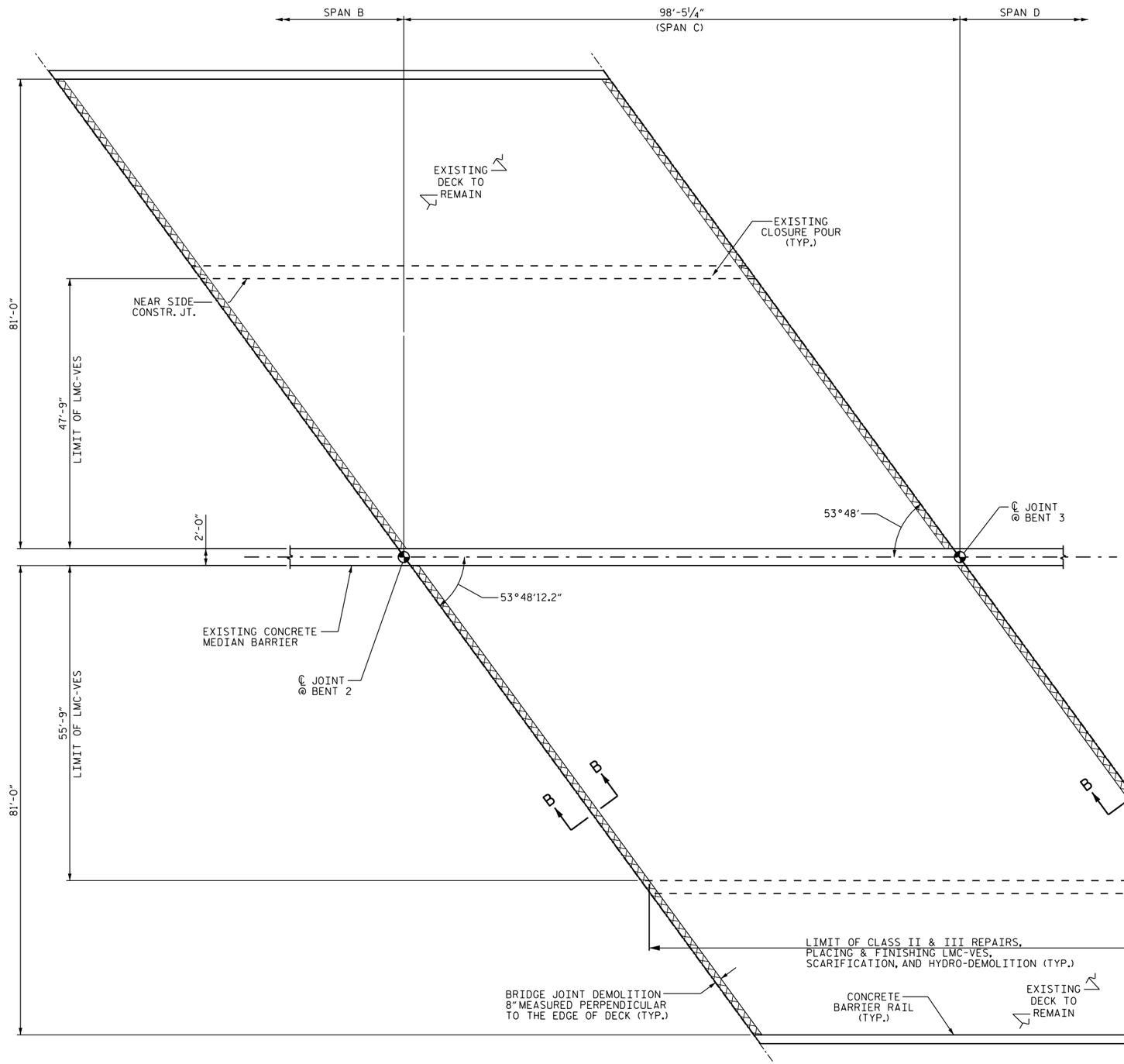
SPAN B

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : D.V. JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2015

08-DEC-2016 06:40
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_011_I5734_SMU_S6_SPB.DGN
pbrewer



PLAN OF SPAN C

(FOR SECTION VIEW, SEE "JOINT DETAILS" SHEET S-9)

SPAN "C" QUANTITIES

	ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	1 SQ. YDS.	
CLASS III SURFACE PREPARATION	1 SQ. YDS.	
BRIDGE JOINT DEMOLITION	272 SQ. FT.	
SCARIFYING BRIDGE DECK	1110 SQ. YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	1110 SQ. YDS.	

PAYMENT FOR CLASS II & CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE SPECIAL PROVISIONS.

CLASS II SURFACE PREPARATION

BRIDGE JOINT DEMOLITION

SCARIFICATION & HYDRO-DEMOLITION

DocuSigned by:
AD50E1D977...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

DRAWN BY : D.V. JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2015

08-DEC-2016 06:41
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_013_I5734_SMU_S7_SPC.DGN
pbrewer

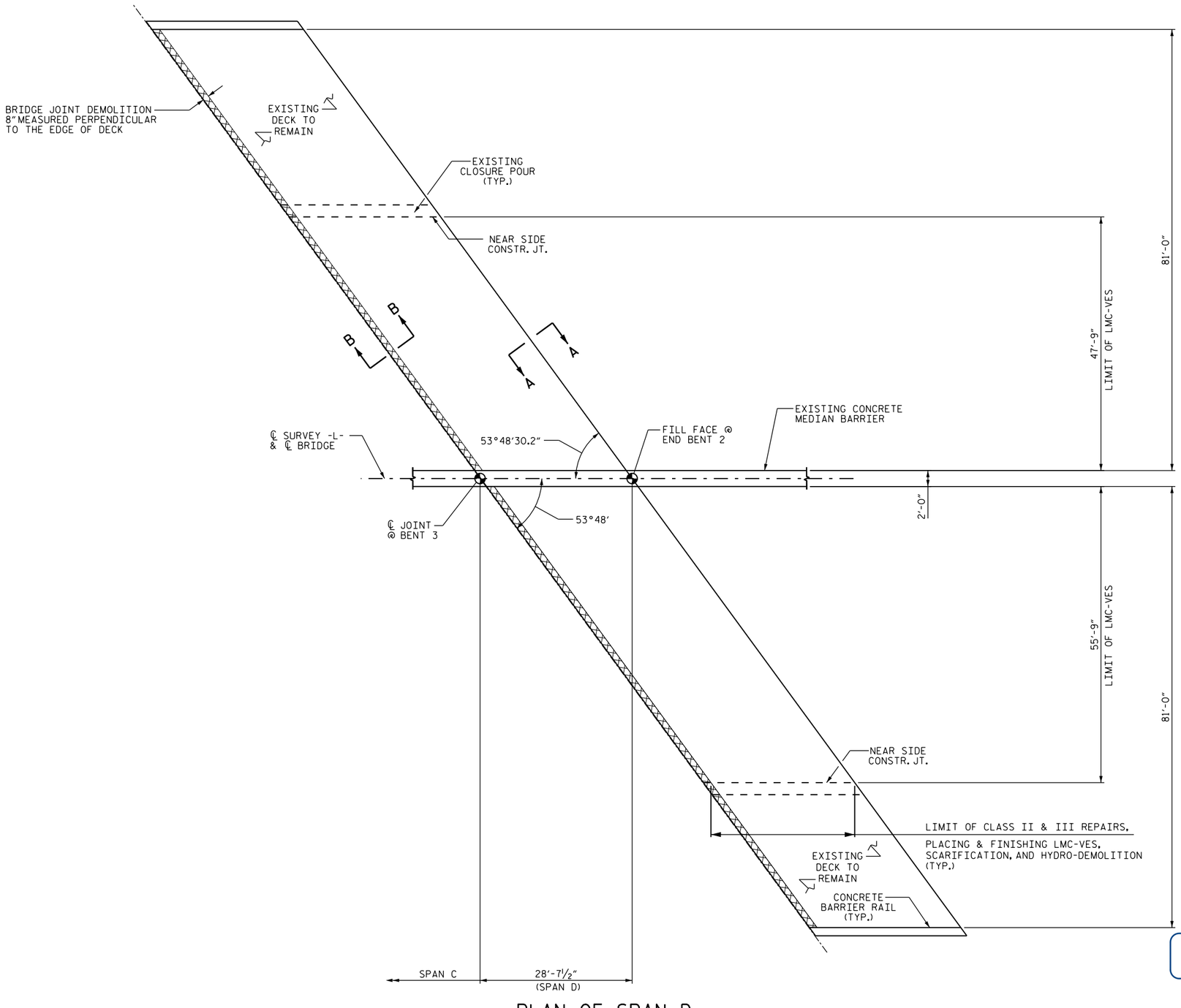
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. I-5734A
GUILFORD COUNTY
BRIDGE NO. 384
SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION
SPAN C

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			18



PLAN OF SPAN D

(FOR SECTION VIEW, SEE "JOINT DETAILS" SHEET S-9)

SPAN "D" QUANTITIES		
	ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	1 SQ. YDS.	
CLASS III SURFACE PREPARATION	1 SQ. YDS.	
BRIDGE JOINT DEMOLITION	136 SQ. FT.	
SCARIFYING BRIDGE DECK	318 SQ. YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	318 SQ. YDS.	

PAYMENT FOR CLASS II & CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE SPECIAL PROVISIONS.

CLASS II SURFACE PREPARATION

BRIDGE JOINT DEMOLITION

SCARIFICATION & HYDRO-DEMOLITION

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION

SPAN D

DocuSigned by:
AD50E1D977...

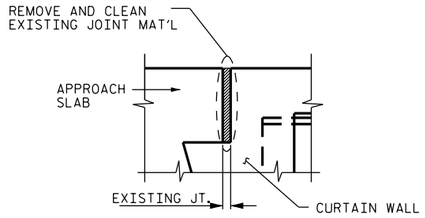
NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

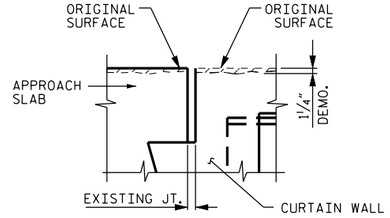
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : D.V. JOYNER DATE : 12/2015
CHECKED BY : W. SMITH DATE : 12/2015

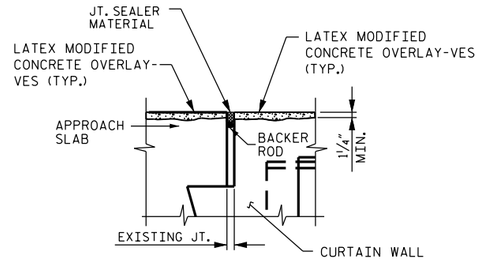
08-DEC-2016 06:41
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_015_I5734_SMU_S8_SPD.DGN
pbrewer



EXISTING JOINT



MINIMUM EXISTING
JOINT DEMOLITION



PROPOSED JOINT

NOTES:

CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL.

HYDRO-DEMOLITION OR EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT AND LEVEL, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

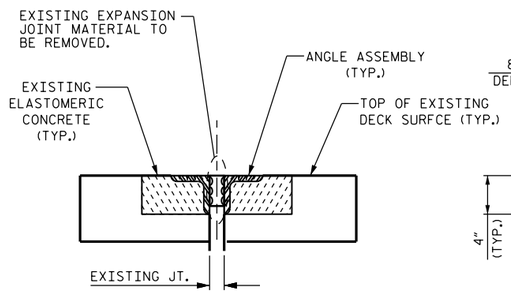
FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

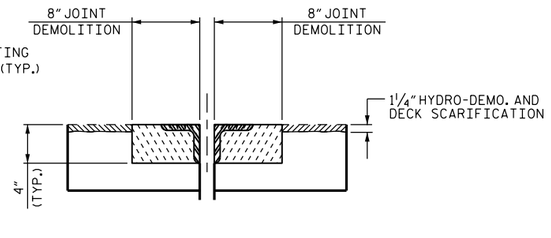
THE WIDTH OF THE UNCOMPRESSED FOAM JOINT MATERIAL SHALL BE 2".

JOINT INSTALLATION SEQUENCE AT END BENTS

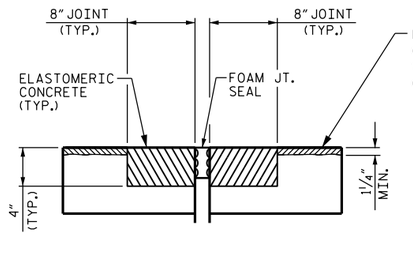
SECTION A-A



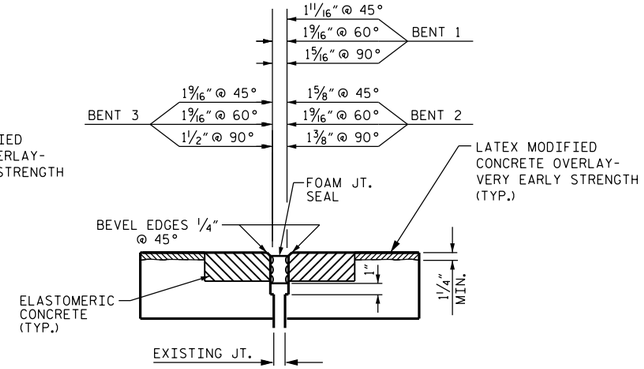
EXISTING JOINT



MINIMUM EXISTING
JOINT DEMOLITION



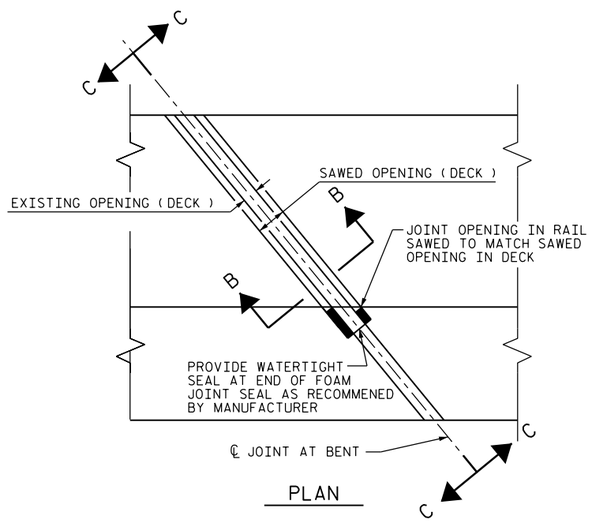
PROPOSED JOINT



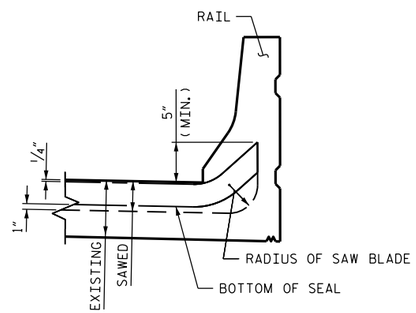
PROPOSED FOAM JOINT
SEAL EXPANSION

JOINT INSTALLATION SEQUENCE AT BENTS

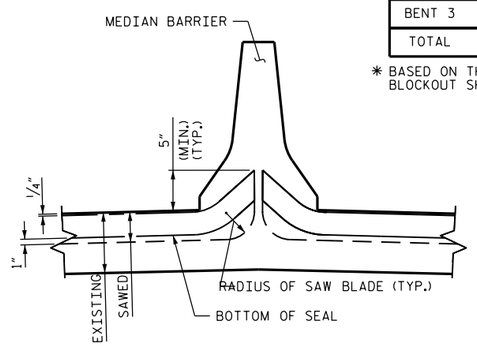
SECTION B-B



PLAN



SECTION C-C



SECTION C-C
(FOR MEDIAN BARRIER)

ELASTOMERIC CONCRETE (CU. FT.)*	
BENT 1	68
BENT 2	68
BENT 3	68
TOTAL	204

* BASED ON THE MINIMUM BLOCKOUT SHOWN

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO.: 384

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

JOINT DETAILS

DocuSigned by:
AD50E1DB77...

NORTH CAROLINA PROFESSIONAL SEAL 18365 ENGINEER TIMOTHY M. SHERRILL

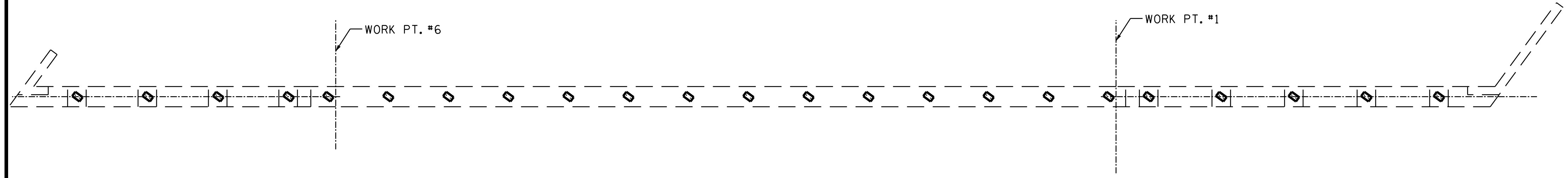
12/8/2016

DRAWN BY : D.V. JOYNER DATE : 1/2016
CHECKED BY : F. ASEFNIA DATE : 1/2016

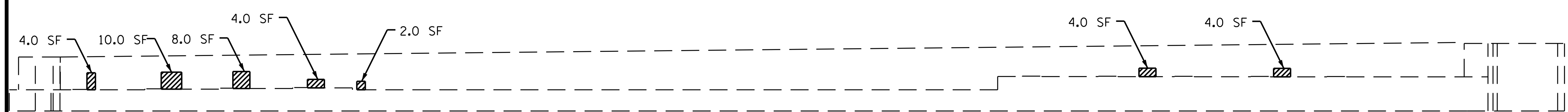
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			18

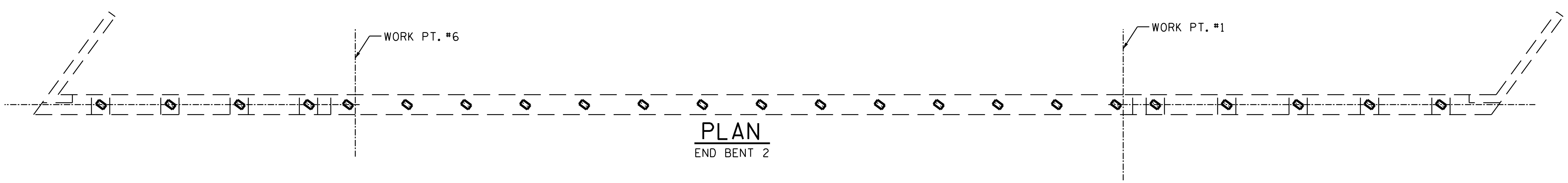
08-DEC-2016 06:42
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_017_I5734_SMU_S9_JT.DGN
pbrewer



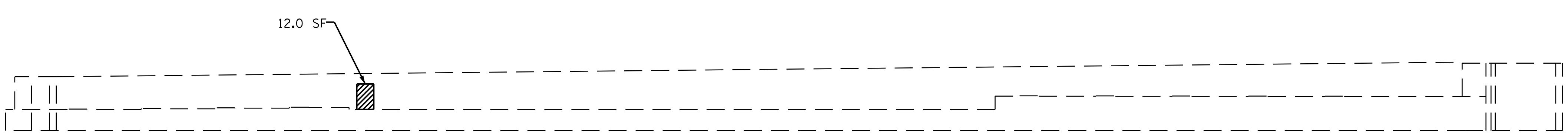
PLAN
END BENT 1



ELEVATION
END BENT 1



PLAN
END BENT 2



ELEVATION
END BENT 2

CONCRETE REPAIRS

SHOTCRETE REPAIRS

ERI EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	36.0	9.0		
CAP (HORIZONTAL, CORNER)	0.0	0.0		
CONCRETE REPAIR	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
EPOXY COATING	AREA SF			
CAP	304.0			

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	
CAP (VERTICAL FACE)	12.0	3		
CAP (HORIZONTAL, CORNER)	0.0	0.0		
CONCRETE REPAIR	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
EPOXY COATING	AREA SF			
CAP	304.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CL TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL CAP AND COLUMN REPAIR DETAILS SHEET.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

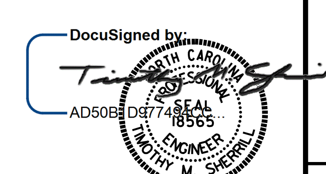
THE CONTRACTOR SHALL EPOXY COAT THE TOP SURFACE AREA OF THE ORIGINAL CAP ONLY.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5734A

GUILFORD **COUNTY**

BRIDGE NO. 384



12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

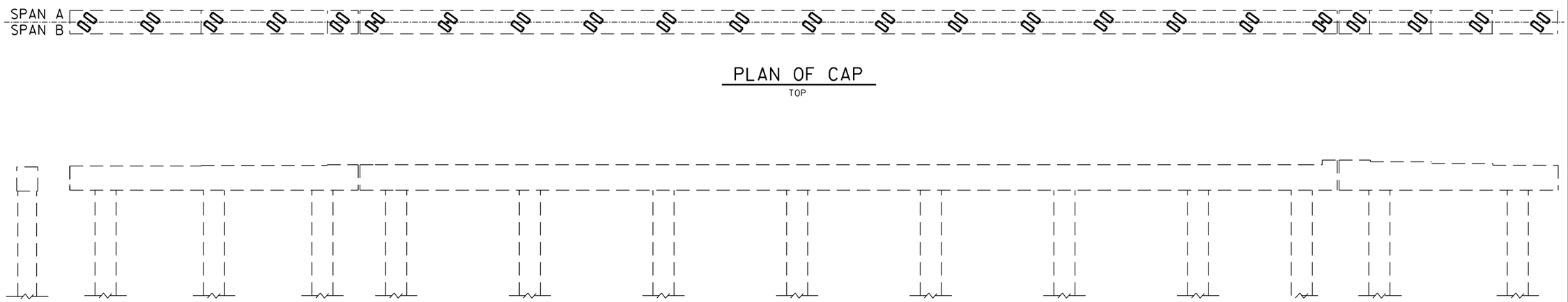
SUBSTRUCTURE

END BENT 1 & 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

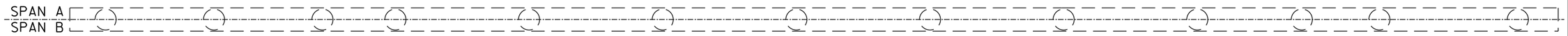
08-DEC-2016 06:43
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_019_I5734_SMU_S10_EB1_2.DGN
pbrewer



PLAN OF CAP
TOP

END VIEW
NORTH SIDE

ELEVATION
SPAN "A" SIDE



PLAN OF CAP
BOTTOM

CONCRETE REPAIRS

SHOTCRETE REPAIR

ERI EPOXY RESIN INJECTION

DocuSigned by:
AD50E1DB77...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

PROJECT NO. I-5734A
GUILFORD COUNTY
BRIDGE NO. 384
SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			18

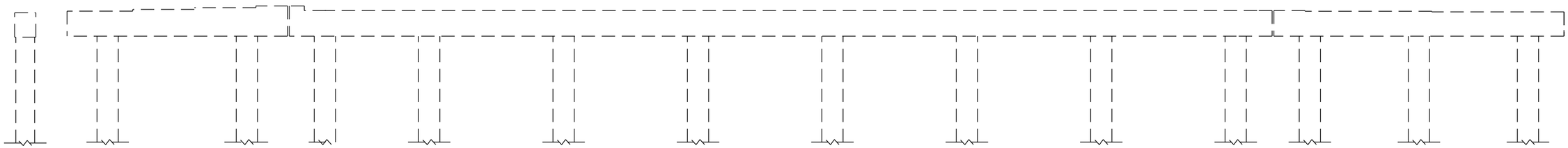
DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

08-DEC-2016 06:44
R:\Structures\Design\STR00-PEF\FinalPlans DGN\401_021-I5734_SMU_S11_B1.DGN
pbrewer

REPAIR QUANTITY TABLE

BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	0.0	0.0		
CAP (HORIZONTAL FACE)	0.0	0.0		
COLUMN (HORIZONTAL FACE)	0.0	0.0		
CONCRETE REPAIR	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING	AREA SF			
CAP	667.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CL TO SAWCUT. SEE REPAIR DETAILS.



END VIEW
SOUTH SIDE

ELEVATION
SPAN "B" SIDE

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF ½" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL CAP AND COLUMN REPAIR DETAILS SHEET.

NO REPAIR NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE END BENTS PRIOR TO BEGINNING WORK.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL EPOXY COAT THE TOP SURFACE AREA OF THE ORIGINAL CAP ONLY.

CONCRETE REPAIRS

SHOTCRETE REPAIR

ERI EPOXY RESIN INJECTION

DocuSigned by:
AD50E1D9774B4CE...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

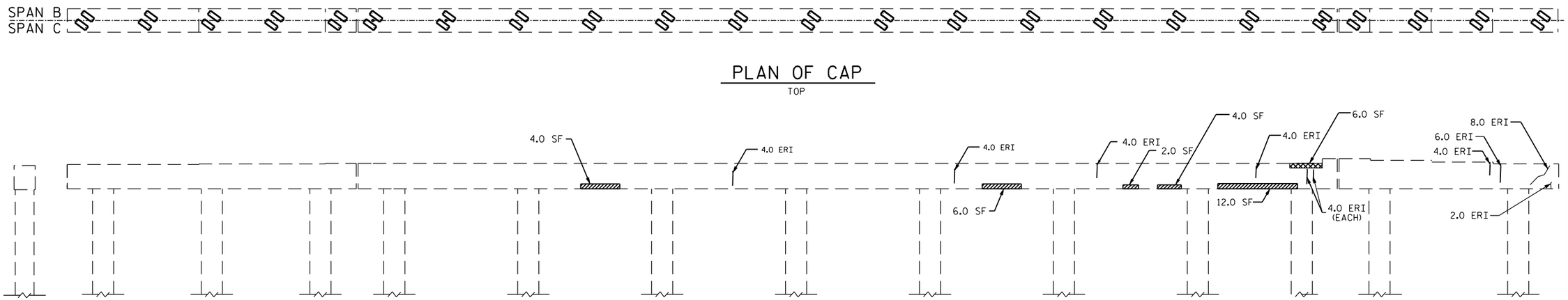
SUBSTRUCTURE

BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

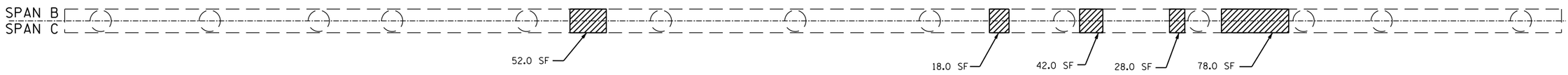
08-DEC-2016 06:45
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_023_I5734_SMU_S12_B1.DGN
pbrewer



PLAN OF CAP
TOP

END VIEW
NORTH SIDE

ELEVATION
SPAN "B" SIDE



PLAN OF CAP
BOTTOM

CONCRETE REPAIRS

SHOTCRETE REPAIR

ERI EPOXY RESIN INJECTION

PROJECT NO. I-5734A
GUILFORD COUNTY
BRIDGE NO. 384
SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 2

DocuSigned by:
AD50B1D977...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			18

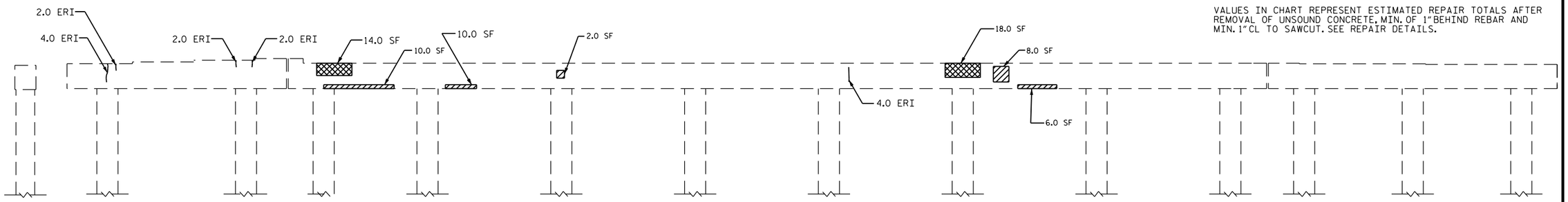
DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

08-DEC-2016 06:45
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_025-I5734_SMU_S13_B2.DGN
pbrewer

REPAIR QUANTITY TABLE

BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	64.0	16.0		
CAP (HORIZONTAL FACE)	218.0	55.0		
COLUMN (HORIZONTAL FACE)	0.0	0.0		
CONCRETE REPAIR	38.0	10.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		58.0		
COLUMN		0.0		
EPOXY COATING	AREA SF			
CAP	667.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CL TO SAWCUT. SEE REPAIR DETAILS.



END VIEW
SOUTH SIDE

ELEVATION
SPAN "C" SIDE

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF ½" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL CAP AND COLUMN REPAIR DETAILS SHEET.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL EPOXY COAT THE TOP SURFACE AREA OF THE ORIGINAL CAP ONLY.

CONCRETE REPAIRS

SHOTCRETE REPAIR

ERI EPOXY RESIN INJECTION

DocuSigned by:
AD50E1D977...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

PROJECT NO. I-5734A
GUILFORD COUNTY
BRIDGE NO. 384
SHEET 2 OF 2

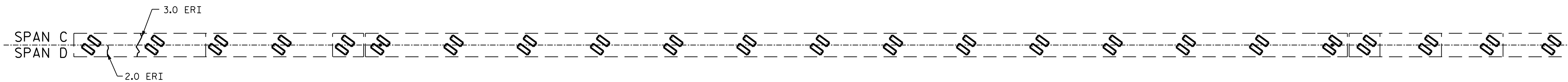
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 2

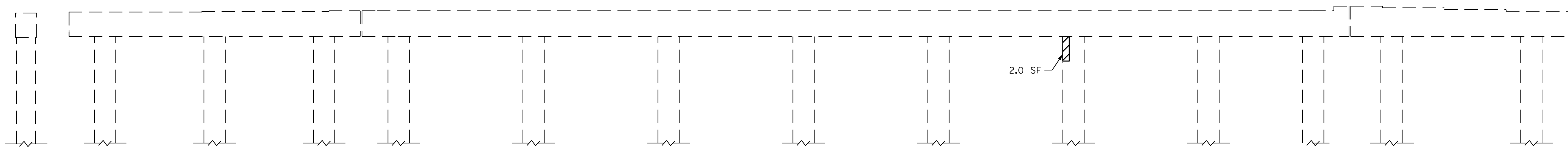
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

08-DEC-2016 06:46
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_027_I5734_SMU_S14_B2.DGN
pbrewer

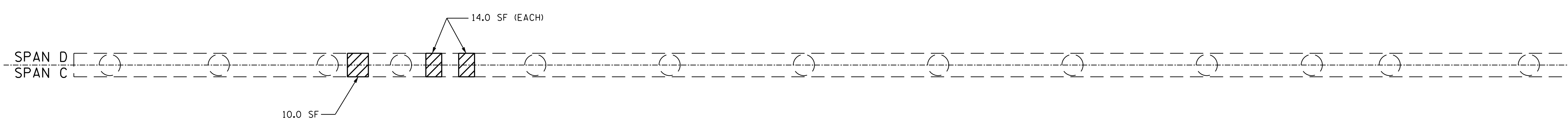


PLAN OF CAP
TOP



END VIEW
NORTH SIDE

ELEVATION
SPAN "C SIDE

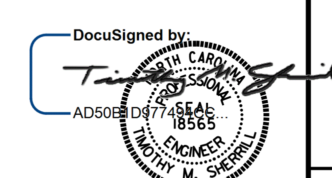


PLAN OF CAP
BOTTOM

CONCRETE REPAIRS

SHOTCRETE REPAIR

ERI EPOXY RESIN INJECTION



12/8/2016

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

BENT 3

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			18

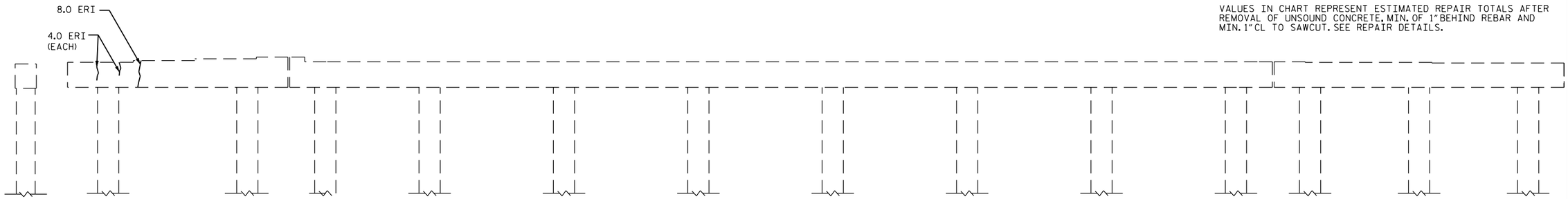
DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

08-DEC-2016 06:47
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_029-I5734_SMU_S15_B3.DGN
pbrewer

REPAIR QUANTITY TABLE

BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	0.0	0.0		
CAP (HORIZONTAL FACE)	38.0	10.0		
COLUMN (HORIZONTAL FACE)	4.0	1.0		
CONCRETE REPAIR	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		26.0		
COLUMN		0.0		
EPOXY COATING	AREA SF			
CAP	667.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CL TO SAWCUT. SEE REPAIR DETAILS.



END VIEW
SOUTH SIDE

ELEVATION
SPAN "D" SIDE

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF ½" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL CAP AND COLUMN REPAIR DETAILS SHEET.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL EPOXY COAT THE TOP SURFACE AREA OF THE ORIGINAL CAP ONLY.

CONCRETE REPAIRS

SHOTCRETE REPAIR

ERI EPOXY RESIN INJECTION

DocuSigned by:
AD50B3D9774540A...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

PROJECT NO. I-5734A
GUILFORD COUNTY
BRIDGE NO. 384
SHEET 2 OF 2

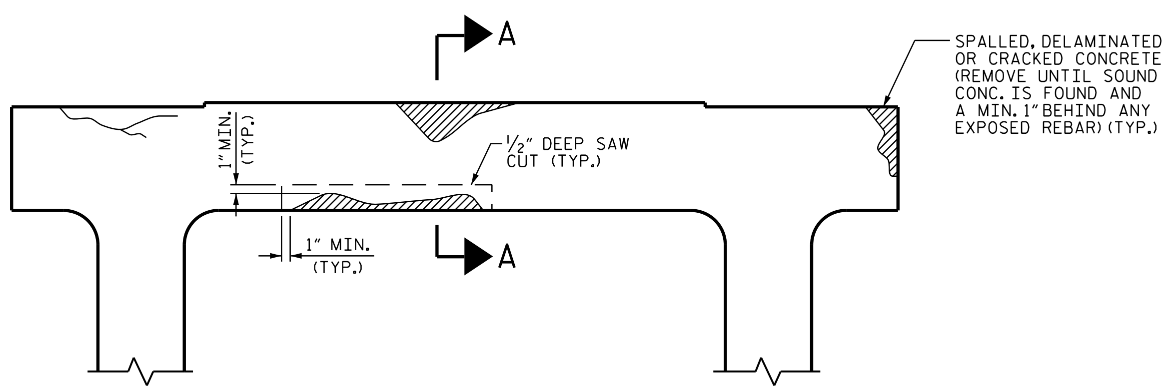
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 3

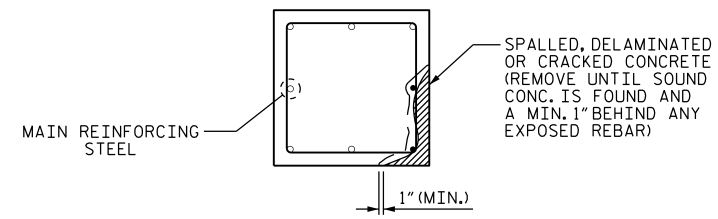
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : M. WELDON DATE : 10/2015
CHECKED BY : W. SMITH DATE : 10/2015

08-DEC-2016 06:48
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_031_I5734_SMU_S16_B3.DGN
pbrewer



BENT CAP REPAIRS



PLAN OF COLUMN

NOTE

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF ½" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

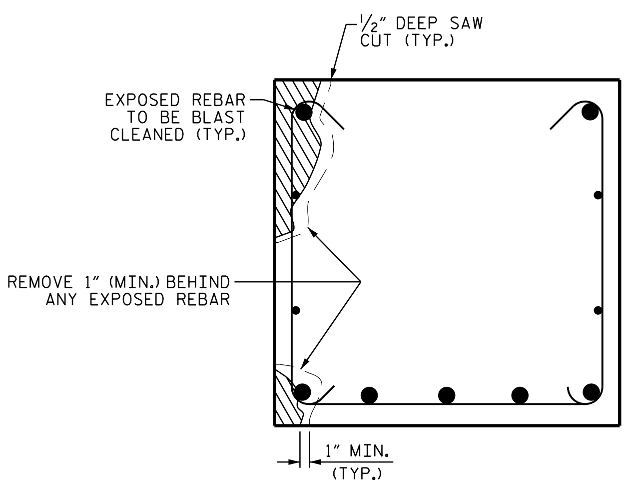
CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

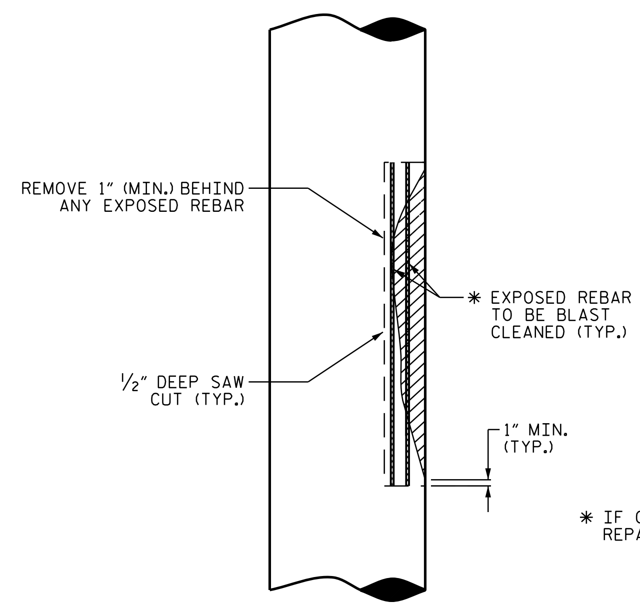
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.



SECTION THRU CAP

(EXAMPLE ONLY. ACTUAL REBAR SIZES & LOCATIONS MAY VARY)

CAP REPAIR



ELEVATION OF CAP

* IF CONFINEMENT STEEL IS NOT PRESENT, THEN REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

COLUMN REPAIR

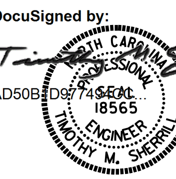
PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO. 384

DocuSigned by:

AD50B1D9774544C...



12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

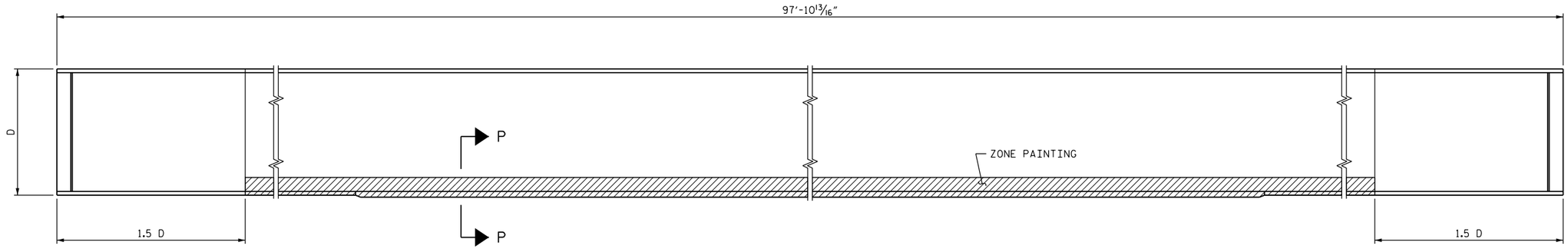
SUBSTRUCTURE

TYPICAL CAP AND COLUMN REPAIR DETAILS

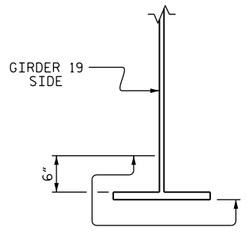
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : M. WELDON DATE : 01/16
CHECKED BY : W. SMITH DATE : 01/16

08-DEC-2016 06:48
R:\Structures\Design\STR00-PEF\Final Plans DGN\401_033_I5734_SMU_S17_CR.dgn
pbrewer



GIRDER ELEVATION
(GIRDER 20 SPAN 3)



SECTION P-P
(ZONE PAINTING LIMITS)

NOTES:

THE LOCATION AND DIMENSIONS OF THE AREA FOR REPAIR IS BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF THE REPAIR AREA PRIOR TO BEGINNING WORK.

CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES ADJACENT TO THE BRIDGE ARE NOT DAMAGED DURING THE REPAIR OPERATIONS.

BEAMS 6 THROUGH 20 SHALL HAVE BEAM ENDS CLEANED AND PAINTED AS REQUIRED IN THE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION. ADDITIONALLY, BEAM 20 SHALL RECEIVE ZONE PAINTING AS INDICATED ON THIS SHEET. FOR ZONE PAINTING, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION.

PROJECT NO. I-5734A

GUILFORD COUNTY

BRIDGE NO: 384

DocuSigned by:
AD50B3D97749F4...

NORTH CAROLINA PROFESSIONAL SEAL 18565 ENGINEER TIMOTHY M. SHERRILL

12/8/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ZONE PAINTING LOCATION

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : P.C. BREWER DATE : 12-16
CHECKED BY : T.M. SHERRILL DATE : 12-16
DESIGN ENGINEER OF RECORD: - DATE : -

07-DEC-2016 10:03
R:\Structures\Design\STR00-PEF\Final Plans DGN\I-5734A_SMU_ S18_ZP.dgn
pbrewer

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF	
STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION	
GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR	
UNTREATED - EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

REV. 6-16-95 EEM (c) RGW REV. 5-7-03 RWW (c) JTE REV. 10-1-11 MAA (c) GM
REV. 8-16-99 RWW (c) LES REV. 5-1-06 TLA (c) GM

02-JUN-2016 11:24
Y:\I5734\Structures\DGN\401_035_I5734_SMU_SN.DGN
fasefnla